CLAIMS

1. A standard preparation useful to quantify or detect a specific target nucleic acid in a sample, comprising a synthetic polynucleotide obtained by chemical synthesis.

2. The standard preparation of claim 1, wherein the synthetic polynucleotide is RNA, DNA or a modification thereof.

3. The standard preparation of claim 1, wherein the synthetic polynucleotide is RNA or DNA.

4. The standard preparation of claim 3, which is a sense strand if the synthetic polynucleotide is RNA, or which is an antisense strand if the synthetic polynucleotide is DNA.

5. The standard preparation of claim 1, wherein the synthetic polynucleotide is a synthesized part of the target nucleic acid, and the number of nucleotides is between 60 and 200.

6. A kit for quantifying nucleic acid comprising the standard preparation of any one of claims 1 to 5.

7. A kit for quantifying nucleic acid comprising the standard preparation of any one of claims 1 to 5 and at least one pair of primers.

8. The kit of claim 7, additionally comprising a fluorescence probe or a phosphorylated probe.

9. The kit of claim 8, additionally comprising a DNA polymerase.

10. The kit of claim 9, additionally comprising a reverse transferase.

11. A kit for quantifying nucleic acid to quantify multiple target nucleic acids, wherein an amplification reagent comprising a pair of primers corresponding to the target nucleic acid is loaded at each reaction site of a reactor having multiple reaction sites, and an amplification reagent comprising the standard preparation of any one of claims 1 to 5 and a pair of primers corresponding to the standard preparation is loaded at a reaction site which is not loaded with a pair of primers corresponding to the target nucleic acid.

12. The kit for quantifying nucleic acid of claim 11, which is used to diagnose a specific disease, and wherein the multiple target nucleic acids are DNA or mRNA related to the specific disease.

13. The kit for quantifying nucleic acid of claim 11, which is used to detect recombinant DNA in food, and wherein the multiple target nucleic acids are recombinant DNA contained in genetically-modified food.

14. A method for quantifying a specific target nucleic acid in a sample, which

comprises adding an amplification reagent comprising at least one pair of primers corresponding to a target nucleic acid to the sample, adding, to a chemically synthesized polynucleotide as a standard preparation, an amplification reagent comprising a pair of primers corresponding to the synthesized polynucleotide, carrying out each amplification reaction, measuring the amounts of the amplified standard preparation and the amplified target nucleic acid, and calculating the amount of the target nucleic acid before amplification according to the information obtained by the measurements.

15. The method of claim 14, wherein the synthetic polynucleotide is RNA, DNA or a modification thereof.

16. The method of claim 14, wherein the synthetic polynucleotide is RNA.

17. The method of claim 16, wherein the synthetic polynucleotide is a sense strand.

18. The method of any one of claims 14 to 17, wherein the synthetic polynucleotide is a synthesized part of the target nucleic acid, and the number of nucleotides is between 60 and 200.

19. The method of any one of claims 14 to 18, wherein the sample is an mRNA sample of human or other animal origins.

20. The method of claim 19, wherein the amplification reagent additionally comprises a fluorescence probe or a phosphorylated probe.

21. The method of claim 20, wherein the amplification reagent additionally comprises a DNA polymerase.

22. The method of claim 21, wherein the amplification reagent additionally comprises a reverse transferase.

23. The method of any one of claims 20 to 22, wherein (1) a probe portion of a fluorescence probe or a phosphorylated probe contained in the amplification reagent comprising at least a pair of primers corresponding to a target nucleic acid, is a probe consisting of the nucleic acid region between the pair of primers in the target nucleic acid, and (2) a probe portion of a fluorescence probe or a phosphorylated probe contained in the amplification reagent comprising the pair of primers corresponding to the synthetic polynucleotide, is a probe consisting of the nucleic acid region between the pair of primers in the synthetic polynucleotide.

24. The method of claim 23, which comprises measuring the amount of the amplified standard preparation and the amount of the amplified target nucleic acid using the fluorescence intensity of the fluorescent substance released from the fluorescence probe or the phosphorylated probe by DNA polymerase or the amount of phosphate group as an index.

25. A method for analyzing SNPs, which uses the kit of claim 11 ~~or~~ the method of claim 14.

26. A method for diagnosing a specific disease, which uses the kit of claim 12 or the method of claim 14.

27. A method for determining if food contains recombinant gene DNA or not, which uses the kit of claim 13 or the method of claim 14.

28. A medicine specified by the kit of claim 12 or the method of claim 26, which comprises a gene DNA in which expression is distinctively increased or reduced in a certain cell or tissue, a gene product thereof, or an agonist, antagonist or antibody against the gene product.